



Photovoltaic Inverter (PV) GSI-3000,4600 Instruction and Operator's Manual



GSI-3000,4600 Introduction and Operator's Manual

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0. Notes on this Manual

0.1 About this Manual


The intention of this manual is to provide instructions for the mounting, installation, maintenance and troubleshooting. Please store with system documentations and ensure that it is accessible at all times.

0.2 Safety Symbols Used

 **Warning:** Indicates a hazardous situation which could result in death or serious injury if not avoided.

 **Caution:** Indicates a situation that can result in damage to the unit or other equipment if not avoided.

 **Electric Shock Hazard:** Indicates a hazardous situation which can result in electrical shock if not avoided.

 **Burn Hazard:** Indicates a hazardous situation which can result in scalds or burns if not avoided.

1. Safety Guidelines

- ⦿ GSI is a grid-tied PV inverter that converts direct current (DC) electricity into alternating current (AC) with an ability to synchronize to interface with a utility grid line. Please do not connect anything other than a PV module source to the inverter.
- ⦿ This is a transformerless inverter, please make sure PV modules connected to the unit have an IEC61730 class A rating.
- ⦿ Risk of electrical shock and energy hazard. All failures should be examined by a qualified technician. Please do not remove the case of the inverter by yourself!
- ⦿ Please do not install the inverter in places with high moisture or near water.
- ⦿ Please do not install the inverter in places with high ambient temperature, under direct sunlight, or near fire source.
- ⦿ Please do not stack any object on the inverter as it may impede heat dissipation.
- ⦿ Comply with the local regulations, standards, and operational procedures when setting up the PV inverter.
- ⦿ Electrical Shock Hazard :
To prevent electrical shock while repairing, please make sure all AC & DC switches are disconnected.
- ⦿ Case Surface :
The Body of PV inverter may possess very high temperatures while operating, please refrain from contact.

2.Introduction

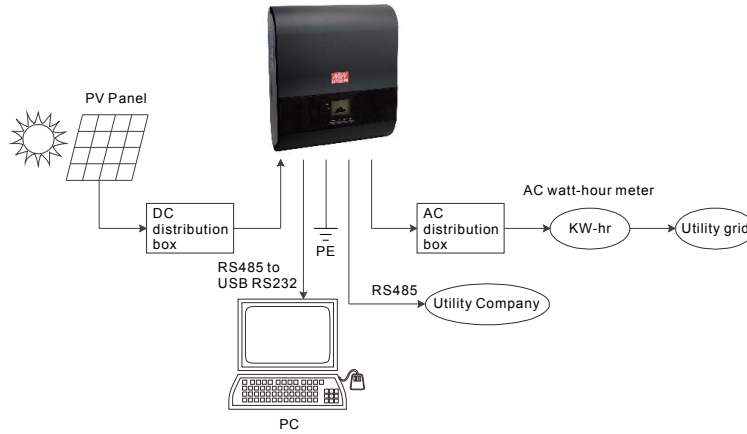


Figure 2.1 System block diagram

Energy is transferred from the PV module to the GSI as a DC input. Next it is converted to an AC output through the GSI and transferred to the utility grid. Data can be acquired through the RS-485 communication interface.

2.1 Features

- True sine wave current output (THD<3%)
- High efficiency up to 96%
- IP65 design for indoor or outdoor installations
- Multi-string input and MPPT
- RS485 communication interface
- Optional DC disconnect switch
- 5 years warranty
- Graphic LCD display
- Anti-islanding protection
- Transformerless design
- With internal ground fault detector
- Monitoring software

2.2 Block Diagram

Grid Type (4600VA)

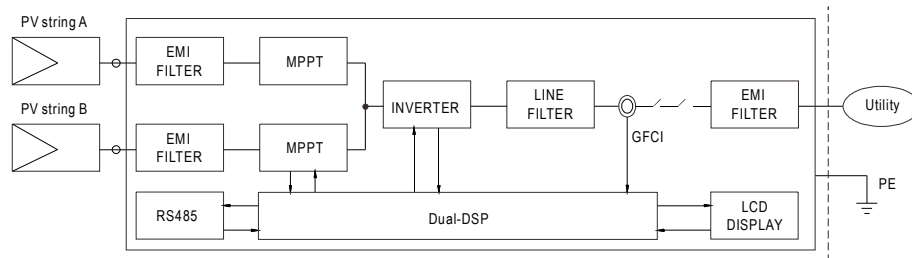


Figure 2-2

Grid Type (3000VA)

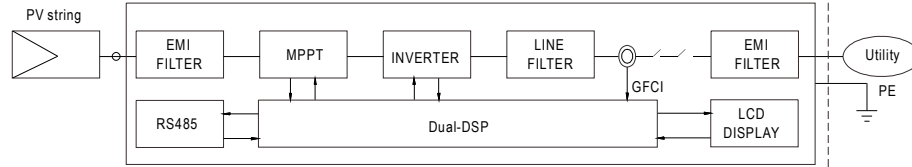


Figure 2-3

2.3 Main Specification

Grid-tied Solar Inverter **GSI-4600 A** :Without DC disconnect switch
 O/P Wattage: 3000VA **A** :With DC disconnect switch
 4600VA

SPECIFICATION

	GSI-3000	GSI-4600
DC Input		
Max. Input Power	3160W	4850W
Input Voltage Range	100 ~ 550VDC	100 ~ 550VDC
MPPT Range	125 ~ 500VDC	125 ~ 500VDC
Number of MPPT Tracker	1	2
Max. Input Current	1*16A	2*10A
AC Output		
Rated Output Power (Typ.) (@230V, 50Hz)	3000VA	4600VA
Max. Output Power (Typ.)	3000VA	4600VA
AC Voltage Range	180 ~ 264VAC	180 ~ 264VAC
AC Grid Frequency	50±5Hz / 60±5Hz	50±5Hz / 60±5Hz
Max. Output Current (Typ.)	13.1A	20A
Power Factor at Rated Power	>0.99	>0.99
Adjustable Displacement Power Factor	0.9 overexcited ~ 0.9 underexcited	0.9 overexcited ~ 0.9 underexcited
THD(at rated power) (Typ.)	<3%	<3%
DC Current Injection (Typ.)	<0.5% of rated output current	<0.5% of rated output current
AC Connection	Single Phase	Single Phase
Efficiency		
Max. Efficiency (Typ.)	>96%	>96%
Euro Efficiency (Typ.)	>95%	>95%
Protection		
DC Reverse Polarity	Yes	Yes
Over Temperature	Yes	Yes
AC Short	Yes	Yes
Residual-Current Monitoring Unit	Yes	Yes
Over Voltage Category Main	III	III
Over voltage Category PV	II	II
Standards Compliance		
Grid Certificate	VDE-AR-N 4105, CGC NB/T 32004, IEEE 1547	
LVD	TUV EN62109-1,-2, CGC NB/T 32004	
EMI Conduction & Radiation	EN61000-6-3, EN61000-3-2,-3, CGC NB/T 32004	EN61000-6-3, EN61000-3-11,-12, CGC NB/T 32004
EMS Immunity	EN61000-6-2 (include EN61000-4-2,3,4,5,6,8,11), EN61000-4-12,-14,-18	
Environment		
Working Temperature	-25 ~ +60℃	-25 ~ +60℃
Working Humidity	4 ~ 100% RH non-condensing	4 ~ 100% RH non-condensing
Maximum Altitude Rating	2000m	2000m
Pollution Degress	III	III
Storage Temperature / Humidity	-30 ~ +70℃	-30 ~ +70℃
Vibration	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes	
Protection Degree	IP65	IP65
General Data		
DC Disconnect Switch	Optional	Optional
Cooling	Convection	Forced Air
Interface	RS485	RS485
Topology	Transformerless	Transformerless
Display	LED / Graphic LCD	LED / Graphic LCD
Dimension(L*W*H)	438*390*158mm (L*W*H)	438*390*158mm (L*W*H)
Weight	20Kg; 1pcs/21Kg/2.16CUFT	20Kg; 1pcs/21Kg/2.16CUFT

3.Appearance

3.1 Front View

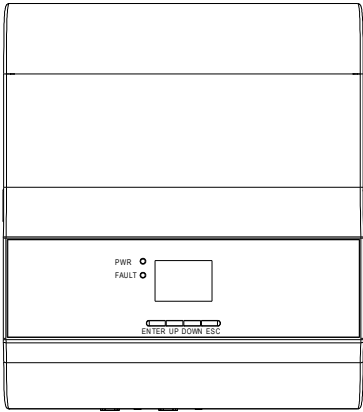


Figure 3-1

- PWR : Power indicator, refer to chapter 6 for instructions
- FAULT : Failure indicator, refer to chapter 6 for instructions
- ENTER: Enter, refer to chapter 6 for instructions
- UP : Enter, refer to chapter 6 for instructions
- DOWN : Down, refer to chapter 6 for instructions
- ESC : Exit, refer to chapter 6 for instructions

3.2 Electrical and Communication Connections

■ GSI-4600

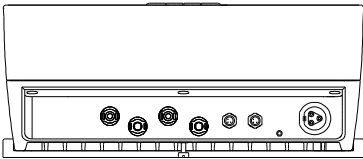


Figure 3-2

■ GSI-4600A

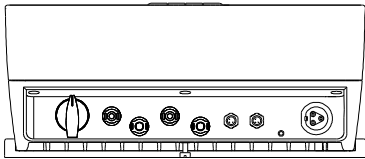


Figure 3-3

■ GSI-3000

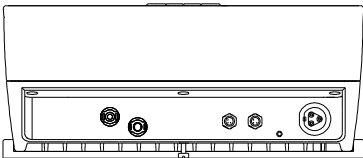


Figure 3-4

■ GSI-3000A

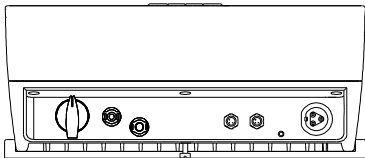


Figure 3-5

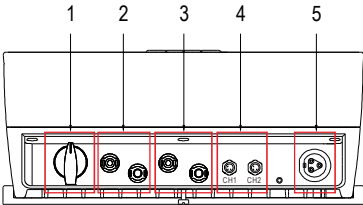


Figure 3-6

- 1 : DC Switch : DC input switch
- 2 : PV String A DC connector : DC channel A input connector
- 3 : PV String B DC connector : DC channel B input connector
- 4 : Remote Port : Communication connector (CH1: linked to PC) (CH2: linked to utility company)
- 5 : AC Connector : AC output connector

4.Functions

4.1 Brief Description

The GSI is a single phase grid-tied PV inverter, which is unlike to the stand-alone PV inverter in the sense that it does not need an external battery, which is expensive and bulky; furthermore reducing the sizeable cost of maintaining this battery. The GSI can effectively convert photovoltaic DC power harvested from the PV module to AC power which is fed back to the utility grid, reaching the goal of generating and conserving energy. The control unit employs digital signal processing (DSP), using advanced digital control methods and algorithms to increase converting efficiency and provide additional features. Power-level circuitry utilizes single stage high frequency switching IGBT, which has the merit of simple structure and high efficiency. PV inverter system can be remotely controlled by software, providing the user with convenient means of power monitoring and data collection without an additional monitoring system.

4.2 Safety Features

To ensure the safety of personnel, GSI has an internal leakage current monitoring system. When a failure occurs and leakage current is present, the system will activate and detach connection to the utility grid. Whether under intentional or unintentional contact, this protection mechanism will trigger to prevent electrical shock.

4.3 Control

GSI provides the following inverter control functions :

- 1.Parameter Monitoring (voltage, current, frequency).
- 2.Utility grid synchronization.
- 3.Maximum Power Point Tracking (MPPT).
- 4.Input and output current limiting.
- 5.Temperature monitoring.
- 6.Graphic display.
- 7.Communication (through RS485 interface).

4.4 Efficiency

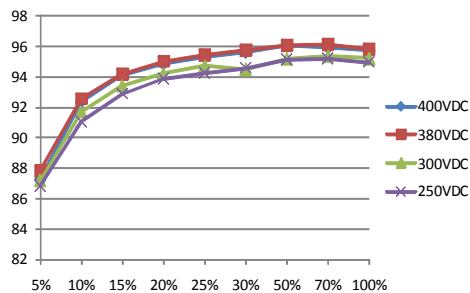


Figure 4-1 Efficiency characteristic curve

4.5 Derating

When the input voltage is low or when ambient temperature is high, the GSI-3000, 4600 will automatically derate the output.

■ Derating

GSI-4600

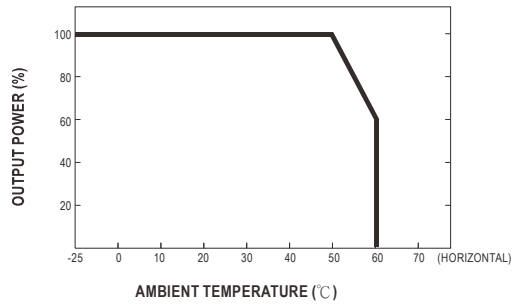


Figure 4-2 GSI-4600 Load vs. Ambient Temperature Curve

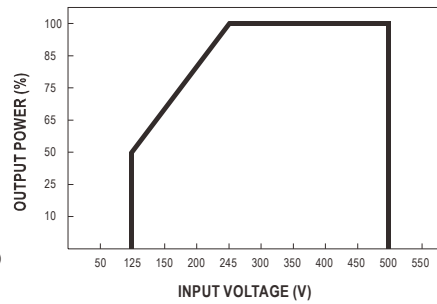


Figure 4-3 GSI-4600 Load vs. Input Voltage Curve

GSI-3000

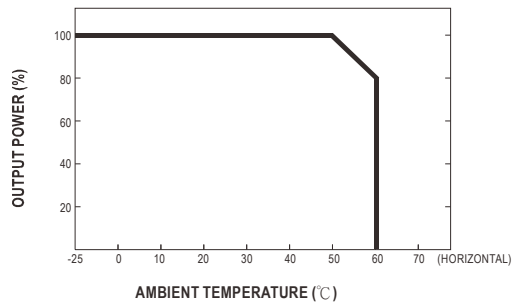


Figure 4-4 GSI-3000 Load vs. Ambient Temperature Curve

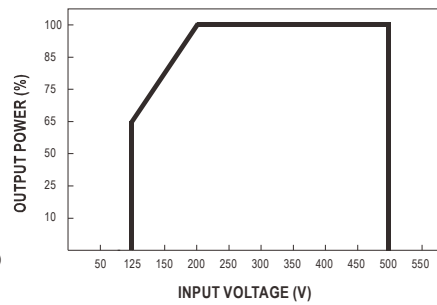
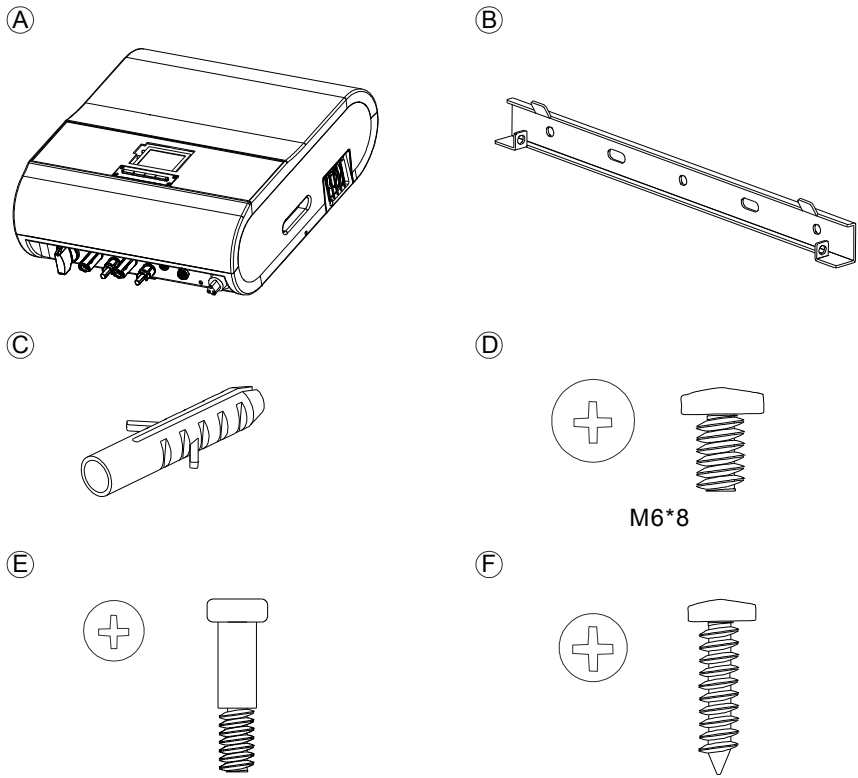


Figure 4-5 GSI-3000 Load vs. Input Voltage Curve

5.Installation
5.1 Package Check List

Item	Quantity
Ⓐ GSI-3000,4600	1
Ⓑ Wall Mounting Bracket	1
Ⓒ Plastic Anchor	3
Ⓓ Mounting Bracket Screw	2
Ⓔ Rear Panel Support Screw	1
Ⓕ Screw for Plastic Anchor	3
Ⓖ User Manual	1
Ⓗ MC4 DC Wire End Connector (+)	2 (GSI-3000*1)
Ⓘ MC4 DC Wire End Connector (-)	2 (GSI-3000*1)
Ⓙ Wieland Flange Wire End AC Connector	1
Ⓚ Communication Wire	2
Ⓛ MC4 DC Connector Disassembling Tool	1

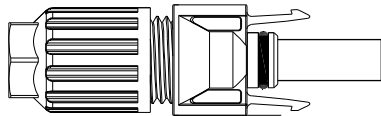
Table 5-1



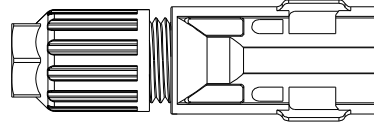
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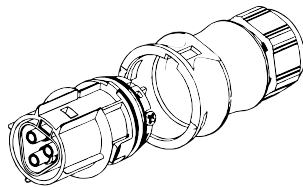
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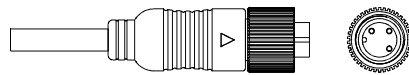
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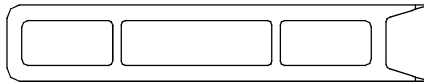


Figure 5-2 Component illustration

5.2 Choosing Installation Location

WARNING!



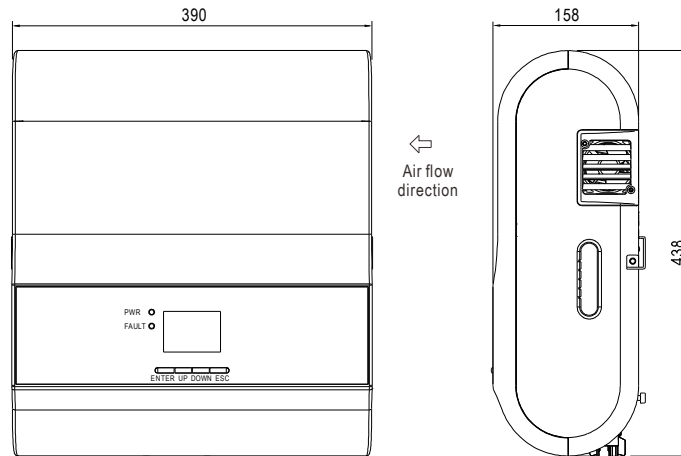
- Ⓖ Do not mount the inverter in areas where highly flammable materials are stored.
- Ⓖ Do not mount the inverter in areas having a potentially explosive atmosphere.



WARNING!

- Ⓖ Install the inverter in such a way that it cannot be touched accidentally.
- Ⓖ Do not install the GSI-3000,4600 in a location that can be easily touched.

5.2.1 Dimensions and Weight



GSI-3000,4600 : 20Kg

Figure 5-3

5.2.2 Environment

- ◎ Install on a firm surface which is capable of withstanding at least 20KG of weight.
- ◎ Installation location must be accessible at all times.
- ◎ Ambient temperature should be lower than 40°C at all times to ensure optimal performance.
- ◎ Do not expose the GSI to direct sunlight to prevent excessive heating which will result in power derating.
- ◎ The GSI may produce audible noise while operating.

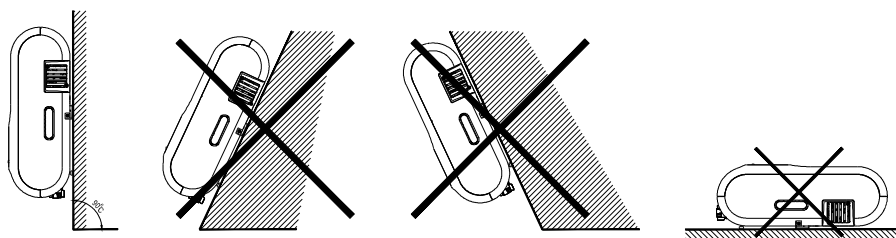
5.2.3 Safety Distance

When choosing wall mounting location, make sure the distance between the inverter and walls, other inverters or objects fulfils the minimize distance requirements on the table below to ensure effective installation and heat dissipation space.

Direction	Minimum Distance
Left/Right	25cm
Top	30cm
Bottom	30cm

5.2.4 Permitted Mounting Position

Please install in an upright position, do not lean forward, backward, or lay flat.



5.3 Wall Mounting

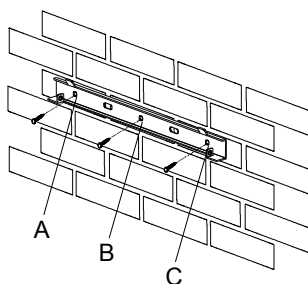
5.3.1 Install Wall Mounting Bracket

Requirements :

1. Install only on vertical surfaces
2. Install on a firm surface

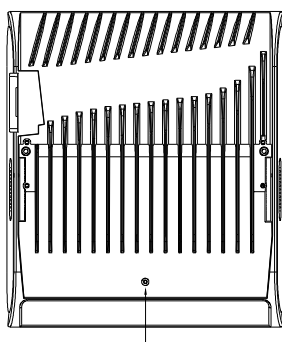
5.3.2 Installation Procedure

1. Use the mounting bracket as a template to mark positions then drill holes.
2. Insert the plastic anchors into the holes then screw the corresponding screws to fix the wall mounting bracket on the wall.



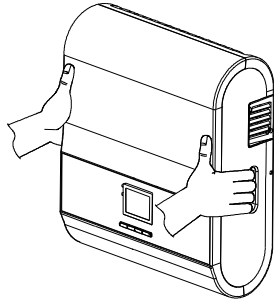
Positions to mark for drilling

3. Install rear panel support screws on the rear of the GSI.

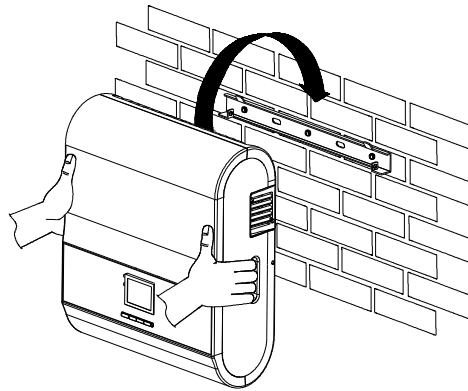


Rear panel support screw position

4. For more convenient maneuvering, please make use of the side handles.

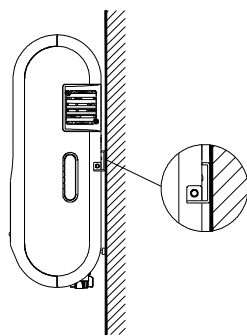


5. Mount this GSI onto the wall mounting bracket.

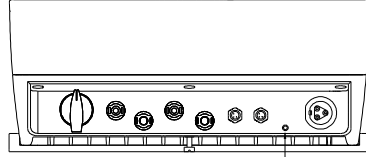


6. Check the sides of the GSI for correct positioning.

7. Use the mounting bracket screw to fix the side holes of the GSI onto the wall mounting bracket.



8. Use the grounding screw to connect the grounding wire to the GSI.



Grounding Position

5.4 Electrical Connections



Warning!

- ⦿ Electrical connection should only be made after making sure the GSI-3000,4600 is thoroughly installed.
- ⦿ One circuit breaker should only be connected to one inverter, please do not connect multiple inverters with one circuit breaker.
(DC : 25A/600V ; AC : 30A/250V)
- ⦿ Connection of the GSI-3000,4600 to the utility grid must be operated by qualified personnel, and must be licensed by the local authorities.



Warning!

- ⦿ Before connecting the PV module, please make sure the GSI-3000, 4600 is disconnected from the utility grid.
- ⦿ When installing the PV module, please make sure it is not directly exposed to sunlight to prevent electrical shock.
- ⦿ Mixing of DC inputs is forbidden.
Example: GSI-4600 has two sets of DC input channels: A and B. When a PV module is connected to the positive terminal of A(B) and negative terminal of B(A), it is called a mixed connection.

DC input: Uses 2 sets of MC4 connectors.

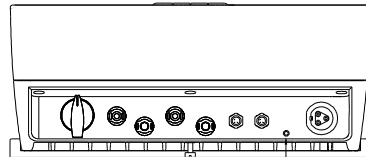
AC output: Uses Wieland Flange connector.

5.4.1 Connection Requirements

Before wiring, fix the inverter, and check the distribution panel to see if the circuit break is in its OFF state, to ensure the safety of the electrical technician. Please choose wire diameter according to our advised values (5.4.2), and conform to local electrical code wiring standards to guarantee the quality of the wiring.



Caution : Grounding screw must be screwed on.



Grounding screw

5.4.2 Cable selection

- 1.Choice of wire diameter must follow safety rules which limit the particular wires to a maximum current flow.
- 2.It is advised to use wires of larger diameter to reduce transmission loss.
- 3.Use color coded cables to indicate the positive and negative terminals of the DC input.
- 4.Use color coded cables to indicate the line, neutral, and potential earth terminals of the AC output.

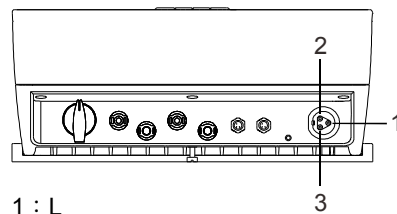
Model	GSI-3000	GSI-4600
Max. Rated Input Current	1x16A	2x10A
Input Cable Cross-section(Typ.)	2.5mm ²	2.5mm ²
Max. Rated Output Current	13.1A	20A
Output Cable Cross-section(typ.)	2.5mm ²	4mm ²

Table 5-2

5.4.3 Wiring Method

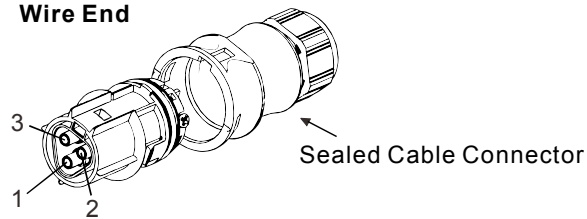
AC connection:

Inverter End



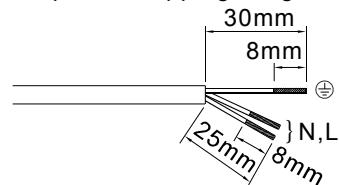
- 1 : L
2 : N
3 : PE

Wire End



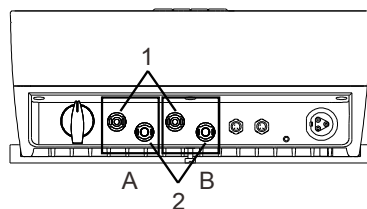
- 1 : L
2 : N
3 : PE

Required Stripping Length



DC connection:

Inverter End



1 : DC Input (+)

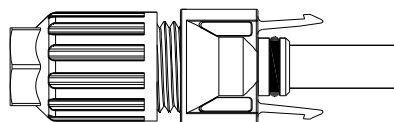
2 : DC Input (-)

A : Channel A

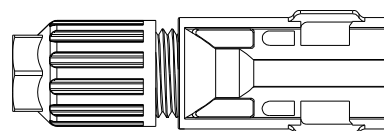
B : Channel B

Wire End

DC Input (+)



DC Input (-)



Required Stripping Length



GSI-3000,4600 DC input limits:

Model	Maximum Input Voltage	Maximum Input Current
GSI-3000	550Vdc	16Adc
GSI-4600	550Vdc	10Adc x 2

5.5 Power ON/OFF



Warning!

- ⦿ Connection of the GSI-3000,4600 to the utility grid must be operated by qualified personnel, and must be licensed by the local authorities.
- ⦿ Please make sure your installation settings comply with local standards and directives on wiring methods and limitations.

5.5.1 Power ON

1. Inspect the DC switch in PV module distribution box, use a multimeter to measure if the input is within rated values (125~500V).



Caution : When designing the system, the user must be mindful of the open circuit voltage when the ambient temperature is at its lowest; This voltage must not be greater than inverter ratings.

2. Inspect the AC switch on the distribution panel, make sure the utility grid's voltage and frequency is within typical range.



Caution : If the local electrical code requires an additional residual current breaker (RCD), the user should choose one with rated breaking leakage current above 100mA.

3. Turn on DC switch and AC switch.
4. After transmission has begun, the inverter will display a boot screen. At this time the GSI will verify the utility grid's AC voltage and frequency. When this process is complete, the inverter will officially start generating power which is then fed back into the utility grid.

5.5.2 Power OFF



Risk of electric shock, Energy storage
timed discharge. 1 minutes

1. Switch OFF the circuit break in the PV module distribution box and the graphics on the GSI display screen will go out.
2. Switch OFF the circuit break on the AC distribution panel and the GSI will be disconnected from utility grid.
3. Check if the display screen has no graphics, the GSI is now OFF.

5.6 Disassembly

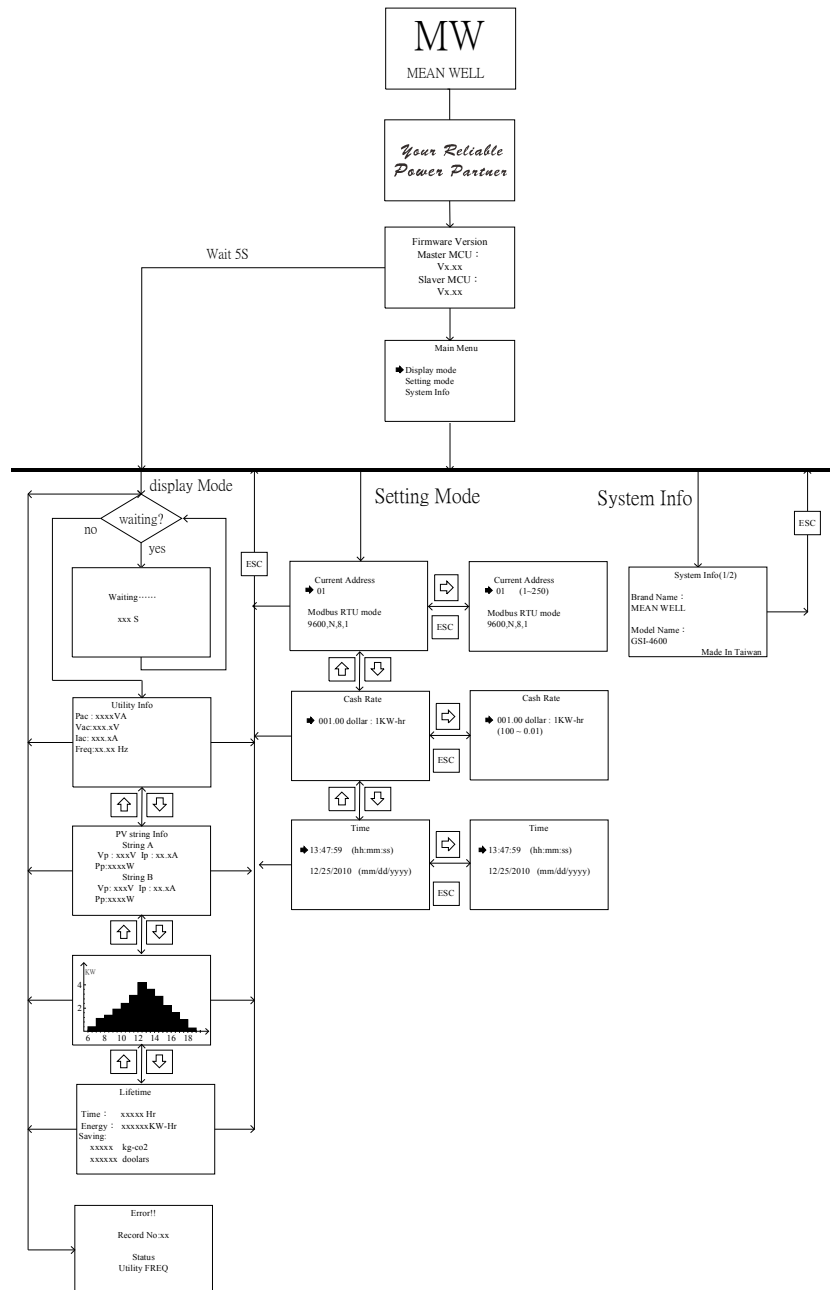
5.6.1 Disassembling Procedure

1. Remove the side and mounting bracket screw.
2. Use the handles on the side of the GSI and remove it from the wall mounting bracket.

6.Operation

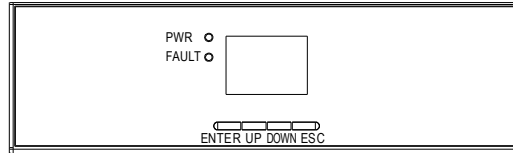
6.1 LCD Display

Menu Structure



6.2 Buttons

1. ENTER : Enter
2. UP : Up
3. DOWN : Down
4. ESC : Leave



6.3 LED Indicators

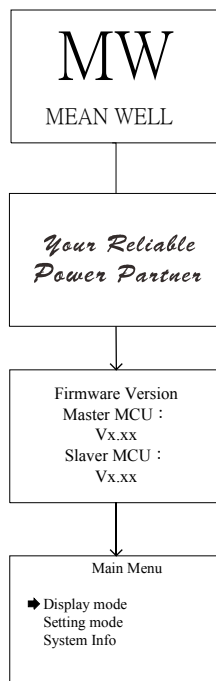
1. PWR : The green LED ON indicates that input power is normal. The green LED OFF indicates the OFF state, and the inverter will not connect to the utility grid.
2. FAULT : The red LED ON indicates that the inverter is not connected to the utility grid or the utility grid connection is abnormal. The red LED OFF means that connection to utility grid was successful.

6.4 Operation Procedure

6.4.1 Startup Screen

When the GSI is powered ON, the following startup screen will be displayed. Under the main screen, there are three choices on the menu: Display Mode, Setting Mode, System Info. The user may use the UP/DOWN buttons to scroll through and press ENTER to select. In each mode, the user may use ESC to return to the main screen.

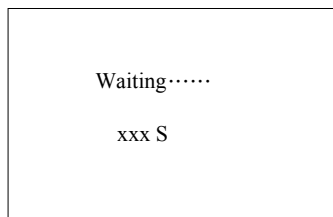
NOTE : If no selection is made after startup, Display Mode is automatically selected.



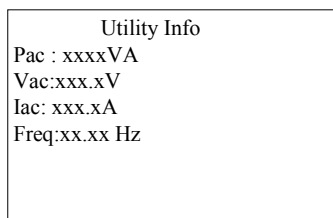
6.4.2 Display mode

When Display mode is selected, the user must wait for the system to verify whether the utility grid is normal before enabling the UP/DOWN buttons to select Power Generation Info: Utility Info, PV Setting Info, Daily Generated Power, Life Time, Error Code.

6.4.2.1 Waiting time before entering next screen

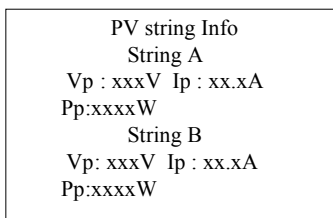


6.4.2.2 AC output info



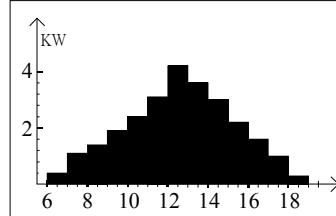
Pac : AC Power Iac : AC Current
Vac : AC Voltage Freq : Frequency

6.4.2.3 PV DC input info



PV String : Split into channels A and B Ip : DC Current
Vp : DC Voltage Pp : DC Power
(Note: GSI-3000 only displays channel A)

6.4.2.4 Daily power generated by day time



X-axis : Time of day

Y-axis: Power

6.4.2.5 Operating Time

Lifetime

Time : xxxxx Hr

Energy : xxxxxxKW-Hr

Saving:

 xxxxx kg-co2

 xxxxxx dollars

Time : Accumulated operating time

Energy: Accumulated power generation

Saving-(kg-CO₂) : Reduced carbon dioxide emission

Saving-(dollar): Saved electric billing

6.4.2.6 Error Code

Error!!

Record No:xx

Status

Utility FREQ

Record No : xx, Please refer to table below

Error Code	Error Cause	Error Code	Error Cause
00	No Error	08	Insulation Abnormal
01	Grid Voltage Abnormal	09	Over Temperature Protection
02	Grid Voltage High for past 10 minutes	11	Relay Connection Abnormal
03	Grid Frequency Abnormal	12	Fan Lock
05	PV End Voltage High	14	DC Bus Voltage High
06	PV End Voltage Low	15	PWM Abnormal
07	Leakage Current Abnormal		

Table 6-1

6.4.3 Setting mode

After entering Setting mode, pressing the UP/DOWN buttons will display Current Address, Cash Rate, or Time.

6.4.3.1 Current Station Address

Current Address
➡ 01
Modbus RTU mode
9600,N,8,1

The system employs the Modbus RTU Mode Protocol Current Address:

The current station address can be selected between 1 and 250

6.4.3.2 Cash Rate

Cash Rate
➡ 001.00 dollar : 1KW-hr

Electric billing saved per kilowatt generated (Dollar: 1KW-hr):

Can be chosen from 0.01 to 100.

6.4.3.3 Time Setting

Time
➡ 13:47:59 (hh:mm:ss)
12/25/2010 (mm/dd/yyyy)

(hh:mm:ss) : Hour: Minute: Second Setting

(mm:dd:yyyy) : Month: Day: Year Setting

6.4.4 System Info

System Info(1/2)
Brand Name :
MEAN WELL
Model Name :
GSI-4600
Made In Taiwan

Brand name : MEAN WELL

Model Name: GSI-4600 (Either GSI-3000 or GSI-4600)

7.Troubleshooting

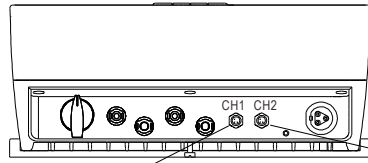
When an unpredictable error occurs, MEAN WELL advises the user to check the error code and notify the local system installation vendors to repair the inverter.

Error Code	Error Cause	Error Cause	Suggested Solution
01	Grid Voltage Abnormal	1.Grid voltage too high or too low 2.Grid connection contact resistance too high 3.Grid disconnected 4.AC cable damaged	1.Measure whether connection between grid voltage and GSI contact is outside range 2.Check if circuit breaker has been triggered 3.Increase wire diameter to reduce resistance
02	Grid Voltage High for past 10 minutes	1.Grid voltage too high 2.Grid connection contact resistance too high	Measure whether connection between grid voltage and GSI contact is too high
03	Grid Frequency Abnormal	Grid frequency outside acceptable range	Measure whether grid frequency is outside range
05	PV End Voltage High	DC voltage too high	1.Disconnect the GSI from the PV module immediately to protect the GSI 2.Check PV module voltage; wait for a suitable input condition to reconnect the GSI *The GSI may already be damaged
06	PV End Voltage Low	DC voltage too low	Wait for greater sunshine!
07	Leakage Current Abnormal	Excessive leakage current may be due to ground fault	Check for a ground fault
08	Insulation Abnormal	Installation error or foreign object entered	Check whether equipment is installed correctly or if a foreign object has entered
09	Over Temperature Protection	1.Operation temperature too high 2.Fan lock	1.Check if ventilation passage is clear or if ambient temperature is too high 2.Clean or change fan
11	Relay Connection Abnormal	Internal fault	Reset and check again. If fault is frequent, please notify MEAN WELL
12	Fan Lock	1.Foreign object stuck 2.Fan fault	1.Clean fan 2.Change fan
14	DC Bus Voltage High	Internal Fault	Reset and check again. If fault is frequent, please notify MEAN WELL
15	PWM Abnormal	Internal Fault	Reset and check again. If fault is frequent, please notify MEAN WELL

Table 7-1

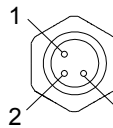
8. Communication

8.1 Communication Connections



CH1 Connection to PC

1. Red: Positive Terminal
2. White: PE
3. Black: Negative Terminal



CH2 connection to utility company

1. Red: Positive Terminal
2. White: PE
3. Black: Negative Terminal

8.2 Wiring Method

Please use the included cables with other waterproof wiring material.

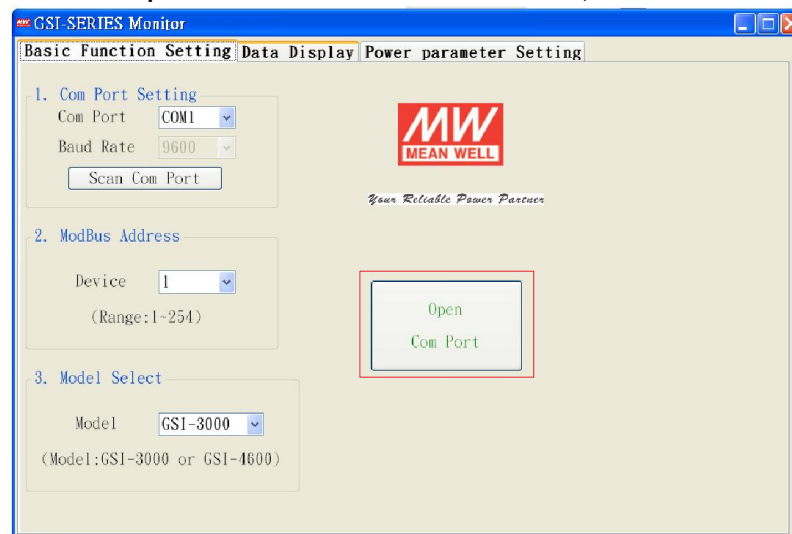
9. Monitoring Software

9.1 Installation

Please download from MEAN WELL's official website and install.

9.2 Operation

9.2.1 Open the monitoring software. Select the "Open Com Port" button to start or stop communication with the GSI-3000,4600.



a. Com Port Setting

Choose the PC com port address to link with the GSI-3000,4600

b.Modbus Address

This option is the device address of the GSI-3000,4600. The software setting and GSI-3000,4600 must have the same address for it to be read. Address can be searched and set from the GSI-3000,4600 interface.

c.Model Select

Choose GSI-3000 or GSI-4600.

9.2.2 In the Data Display tab, select Start Receive Data to receive data.

ErrorCode: Displays current GSI-3000,4600 status (00 for normal operation)

AC: Displays GSI-3000,4600's power generation info.

PV Panel A: Displays info of PV Array A.

PV Panel B: Displays info of PV Array B.

Event Log: For recording warnings by the GSI-3000,4600; Five entries of data can be recorded at most, with the oldest entry being erased when there are more than five.

GSI SERIES Monitor

Basic Function Setting | **Data Display** | Power parameter Setting

GSI-3000

ErrorCode

AC

Vac V

Iac A

Pac VA

Energy kWh

PV Panel A

Vpva V

Ipva A

Ppva W

Event Log

Record Number

Event

Occur Time

< Pre Next >

Start Receive Data

GSI SERIES Monitor

Basic Function Setting | **Data Display** | Power parameter Setting

GSI-4600

ErrorCode

AC

Vac V

Iac A

Pac VA

Energy kWh

PV Panel A

Vpva V

Ipva A

Ppva W

PV Panel B

Vpvb V

Ipv b A

Ppvb W

Event Log

Record Number

Event

Occur Time

< Pre Next >

Start Receive Data

9.2.3 Power parameter Setting

a. Input Password (For utility employees to modify)

Password : meanwell

b. Cos ϕ

Set power factor to be leading or lagging to compensate the local power system.

c. Power Limit

Set the maximum power output of the GSI-3000,4600 to a particular percentage or wattage.

d. GSI system setting

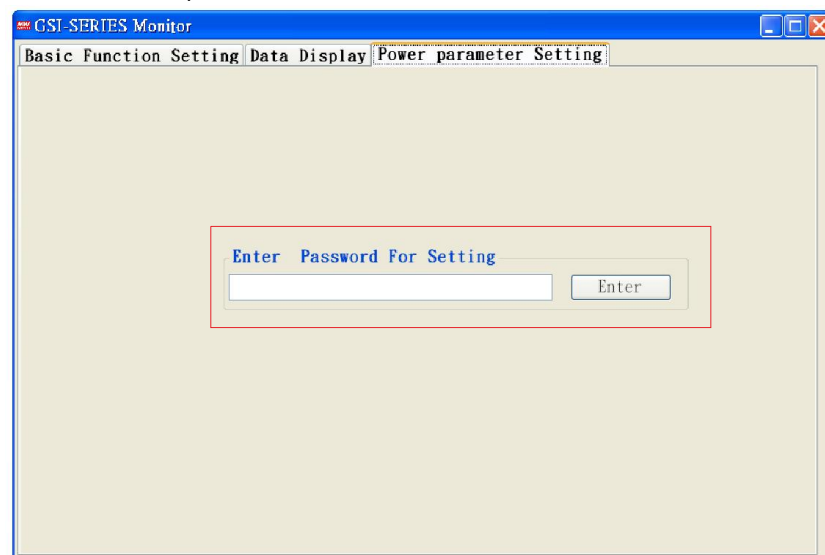
Remove accumulated power generation data.

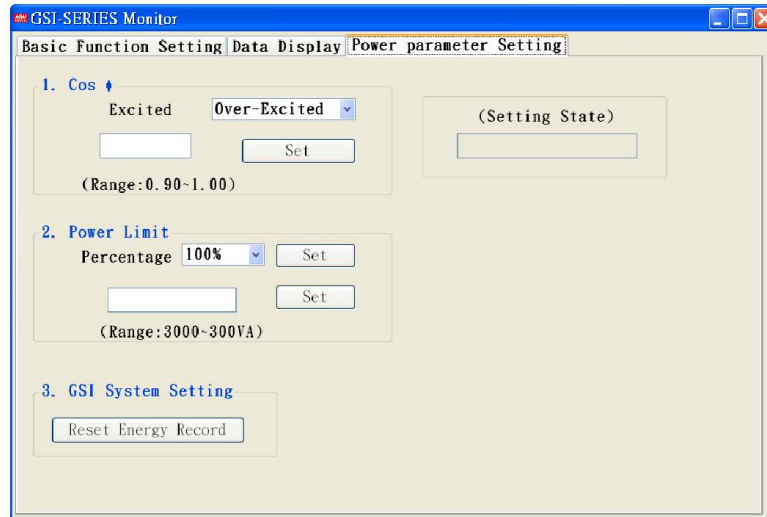
e. Setting state

Set in Progress : Setup in progress

Try Again : Try again

Success : Setup successful





Appendix A

MODBUS Data Physical Address: GSI-3000,4600 employs MODBUS protocol with RS-485 interface. Please find all information for communication needs in the table below.

System Info Physical Address Definition(0x6000 ~ 0x60FF):					
Address	Data Name	Data Type	Range	Corresponding value	
0x6000	GSI ID address	Integer	1~250	1~250	
0x6001	GSI ON/OFF	Integer	0~1	0:OFF 1:ON	
0x6002	Error Code	Integer	0~15	0~15	

Note 1 : GSI ID address: Through the RS-485 interface, a PC can monitor as many as 250 GSI at the same time.

Output End Data Physical Address Definition(0x6100 ~ 0x61FF):					
Address	Data Name	Data Type	Range	Corresponding value	
0x6100	Output 1 Real power	Integer	0~10000	0~10000W	
0x6103	Output 1 Grid frequency	Integer	0~10000	0~100.00Hz	
0x6105	Output 1 Grid Voltage	Integer	0~300	0~300V	
0x6106	Output 1 Grid current	Integer	0~300	0~30.0A	
0x6107	Output 1 leakage current	Integer	0~300	0~300mA	
0x6118	Output 1 Active energy(Hi)	unsigned Integer	2147483648	21474836.48 KW-Hr	
0x6119	Output 1 Active energy(Lo)	unsigned Integer			
0x6120	Output 1 power Factor command (read only)	Integer	1100~900 (Lead 0.9~Lag 0.9)	+0.9~-0.9	
0x6121	Output 1 Power limit command (read only)	Integer	3000~4600	3000~4600VA	
Input End Channel A Data Physical Address Definition(0x6500 ~ 0x65FF) :					
Address	Data Name	Data Type	Range	Corresponding value	
0x6500	input 1 Average Power	Integer	0~30000	0~30000W	
0x6501	input 1 Average Voltage	Integer	0~1000	0~1000V	
0x6502	input 1 Average current	Integer	0~300	0~30.0A	

Input End Channel B Data Physical Address Definition(0x6600 ~ 0x66FF):					
Address	Data Name	Data Type	Range	Corresponding value	
0x6600	input 2 Average Power	Integer	0~30000	0~30000W	
0x6601	input 2 Average Voltage	Integer	0~1000	0~1000V	
0x6602	input 2 Average current	Integer	0~300	0~30.0A	
Sequential Data Reading Address Definition (0x6800 ~ 0x68FF) :					
Address	Data Name	Data Type	Range	Corresponding value	
0x6800	Error Code	Integer	0~15	0~15	
0x6801	Real power (Output 1)	Integer	0~10000	0~10000W	
0x6802	Grid Voltage (Output 1)	Integer	0~300	0~300V	
0x6803	Grid Voltage (Output 1)	Integer	0~300	0~30.0A	
0x6804	Average power (Output 1)	Integer	0~10000	0~10000W	
0x6805	Average Voltage (Output 1)	Integer	0~1000	0~1000V	
0x6806	Average current (Output 1)	Integer	0~300	0~30.0A	
0x6807	Average power (Output 2)	Integer	0~10000	0~10000W	
0x6808	Average Voltage (Output 2)	Integer	0~1000	0~1000V	
0x6809	Average current (Output 2)	Integer	0~15	0~15A	
0x680A	Grid frequency (Output 1)	Integer	0~300	0~300.0Hz	
0x680B	Active energy (Hi)	unsigned Integer	2147483648	21474836.48 KW-Hr	
0x680C	Active energy (Lo)	unsigned Integer			
0x680D	System DC_bus Voltage	Integer	0~1000	0~1000V	

Address	Data Name	Data Type	Range	Corresponding value	
0x680E	Temperature A	Integer	0~200	-50~150℃	
0x680F	Temperature B	Integer	0~200	-50~150℃	
Set Data Address (0x6A00~0x6AFF) :					
Address	Data Name	Data Type	Range	Corresponding value	
0x6A00	Control ON/OFF	Integer	0~1	0:OFF 1:ON	
0x6A01	Accumulated Power Generation Reset	Integer	0~1	1:reset	
0x6A10	Set Output 1 Power Factor	Integer	1100~900 (Lead 0.9~ Lag 0.9)	+0.9~-0.9	
0x6A11	Set Output 1 Power Limit	Integer	3000~4600	3000~4600VA	
Event Log Address (0x6B00~0x6BFF) :					
Address	Data Name	Data Type	Range	Corresponding value	
0x6B00	Evelog1_Code			Event log 1 Error Code	
0x6B01	Evelog1_Year			Event log 1 Year	
0x6B02	Evelog1_Mon			Event log 1 Month	
0x6B03	Evelog1_Day			Event log 1 Day	
0x6B04	Evelog1_Hr			Event log 1 Hour	
0x6B05	Evelog1_Min			Event log 1 Minute	
0x6B06	Evelog1_Sec			Event log 1 Second	
0x6B07	Evelog2_Code			Event log 2 Error Code	
0x6B08	Evelog2_Year			Event log 2 Year	
0x6B09	Evelog2_Mon			Event log 2 Month	
0x6B0A	Evelog2_Day			Event log 2 Day	
0x6B0B	Evelog2_Hr			Event log 2 Hour	

Address	Data Name	Data Type	Range	Corresponding value	
0x6B0C	Evelog2_Min			Event log 2 Minute	
0x6B0D	Evelog2_Sec			Event log 2 Second	
0x6B0E	Evelog3_Code			Event log 3 Error Code	
0x6B0F	Evelog3_Year			Event log 3 Year	
0x6B10	Evelog3_Mon			Event log 3 Month	
0x6B11	Evelog3_Day			Event log 3 Day	
0x6B12	Evelog3_Hr			Event log 3 Hour	
0x6B13	Evelog3_Min			Event log 3 Minute	
0x6B14	Evelog3_Sec			Event log 3 Second	
0x6B15	Evelog4_Code			Event log 4 Error Code	
0x6B16	Evelog4_Year			Event log 4 Year	
0x6B17	Evelog4_Mon			Event log 4 Month	
0x6B18	Evelog4_Day			Event log 4 Day	
0x6B19	Evelog4_Hr			Event log 4 Hour	
0x6B1A	Evelog4_Min			Event log 4 Minute	
0x6B1B	Evelog4_Sec			Event log 4 Second	
0x6B1C	Evelog5_Code			Event log 5 Error Code	
0x6B1D	Evelog5_Year			Event log 5 Year	
0x6B1E	Evelog5_Mon			Event log 5 Month	
0x6B1F	Evelog5_Day			Event log 5 Day	
0x6B20	Evelog5_Hr			Event log 5 Hour	
0x6B21	Evelog5_Min			Event log 5 Minute	
0x6B22	Evelog5_Sec			Event log 5 Second	

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